### SRA Skills Handbook: Using Science

#### correlation to

# Texas Assessment of Knowledge and Skills (TAKS) Elementary Science Grade 5

Objective 1: The student will demonstrate an understanding of the nature of science.

(3.1, 4.1, 5.1) Scientific processes. The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:

(A) demonstrate safe practices during field and laboratory investigations.

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(3.2, 4.2, 5.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:

(A) plan and implement descriptive and simple experimental investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology.

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**Grade 5 Skills Workbook:** pages 7, 8, 11, 12, 13, 14, 15, 16, 17, 18

#### Objective 1: The student will demonstrate an understanding of the nature of science.

(3.2, 4.2, 5.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:

(B) collect information by observing and measuring.

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(3.2, 4.2, 5.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:

(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence.

**Grade 3 Student Book:** pages 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37

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**Grade 5 Skills Workbook:** pages 11, 12, 13, 14, 15, 16, 17, 18, 33, 34

#### Objective 1: The student will demonstrate an understanding of the nature of science.

(3.2, 4.2, 5.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:

(D) communicate valid conclusions.

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Grade 3 Teacher's Guide: pages 16, 17, 18, 19

Grade 3 Skills Workbook: pages 15, 16, 17, 18

Grade 4 Student Book: pages 38, 39, 40, 41, 58, 59, 60, 61, 154, 155, 156, 157, 158, 159

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**Grade 5 Skills Workbook:** pages 15, 16, 17, 18, 33, 34

(3.2, 4.2, 5.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:

(E) construct simple graphs, tables, maps, and charts using tools [including computers] to organize, examine, and evaluate information.

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#### Objective 1: The student will demonstrate an understanding of the nature of science.

(3.3, 4.3, 5.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:

(A) analyze, review, [and critique] scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information.

**Grade 3 Student Book:** pages 18, 19, 20, 21, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41

Grade 3 Teacher's Guide: pages 8, 9, 14, 15

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(3.3, 4.3, 5.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:

(B) draw inferences based on information [related to promotional materials] for products and services.

**Grade 3 Student Book:** pages 88, 89, 90, 91

Grade 3 Teacher's Guide: pages 36, 37

Grade 3 Skills Workbook: pages 35, 36

**Grade 4 Student Book:** pages 86, 87, 88, 89

Grade 4 Teacher's Guide: pages 36, 37

Grade 4 Skills Workbook: pages 35, 36

**Grade 5 Student Book:** pages 38, 39, 40, 41, 80, 81, 82, 83, 84, 85

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Grade 5 Skills Workbook: pages 15, 16, 33, 34

Objective 1: The student will demonstrate an understanding of the nature of science.

(3.3, 4.3, 5.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:

(C) represent the natural world using models and identify their limitations.

**Grade 3 Student Book:** pages 4, 5, 6, 7, 146, 147, 148, 149, 150, 151

Grade 3 Teacher's Guide: pages 2, 3, 60, 61

Grade 3 Skills Workbook: pages 1, 2, 59, 60

**Grade 4 Student Book:** pages 4, 5, 6, 7, 148, 149, 150, 151, 152, 153

**Grade 4 Teacher's Guide:** pages 2, 3

Grade 4 Skills Workbook: pages 1, 2, 59, 60

**Grade 5 Student Book:** pages 4, 5, 6, 7, 8, 9

**Grade 5 Teacher's Guide:** pages 2, 3

**Grade 5 Skills Workbook:** pages 1, 2

(3.4, 4.4, 5.4) Scientific processes. The student knows how to use a variety of tools and methods to conduct scientific inquiry. The student is expected to:

(A) collect and analyze information using tools including calculators, microscopes, [cameras, sound recorders, computers], hand lenses, rulers, thermometers, compasses, balances, [hot plates], meter sticks, timing devices, magnets, collecting nets, and safety goggles.

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#### Objective 2: The student will demonstrate an understanding of the life sciences.

(2.9) Science concepts. The student knows that living organisms have basic needs. The student is expected to:
(A) identify the external characteristics of different kinds of plants and animals that allow their needs to be met.

**Grade 3 Student Book:** pages 82, 83, 84, 85, 86, 87, 132, 133, 134, 135

**Grade 3 Teacher's Guide:** pages 34, 35, 54, 55

**Grade 3 Skills Workbook:** pages 23, 24, 41, 51, 52, 53, 54, 69, 70

**Grade 4 Student Book:** pages 100, 101, 102, 103, 184, 185, 186, 187, 188, 189

**Grade 4 Teacher's Guide:** pages 42, 43, 74, 75

Grade 4 Skills Workbook: pages 41, 42, 73, 74

Grade 5 Student Book: pages 96, 97, 98, 99, 100, 101, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 194, 195, 196, 197

**Grade 5 Teacher's Guide:** pages 40, 41, 46, 47, 48, 49, 78, 79

**Grade 5 Skills Workbook:** pages 39, 40, 45, 46, 47, 48, 77, 78

(2.9) Science concepts. The student knows that living organisms have basic needs. The student is expected to:

(B) compare and give examples of the ways living organisms depend on each other and on their environments.

**Grade 3 Student Book:** pages 128, 129, 130, 131

Grade 3 Teacher's Guide: pages 52, 53

Grade 3 Skills Workbook: pages 29, 30, 51, 52

Grade 4 Student Book: pages 42, 43, 44, 45, 46, 47, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 166, 167, 168, 169

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**Grade 5 Teacher's Guide:** pages 46, 47, 70, 71

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#### Objective 2: The student will demonstrate an understanding of the life sciences.

(3.8) Science concepts. The student knows that living organisms need food, water, light, air, a way to dispose of waste, and an environment in which to live. The student is expected to:

(A) observe and describe the habitats of organisms within an ecosystem.

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**Grade 3 Skills Workbook:** pages 23, 24, 27, 28, 29, 30

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**Grade 4 Skills Workbook:** pages 25, 26, 41, 42, 65, 66, 79, 80

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**Grade 5 Teacher's Guide:** pages 46, 47, 70, 71, 78, 79

**Grade 5 Skills Workbook:** pages 45, 46, 69, 70, 77, 78

#### Objective 2: The student will demonstrate an understanding of the life sciences.

(3.8) Science concepts. The student knows that living organisms need food, water, light, air, a way to dispose of waste, and an environment in which to live. The student is expected to:

(B) observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space.

Grade 3 Skills Workbook: pages 15, 16

Grade 4 Skills Workbook: pages 5, 6

Grade 5 Student Book: pages 86, 87, 88, 89, 110, 111, 112, 113, 114, 115

Grade 5 Teacher's Guide: pages 36, 37, 46, 47

Grade 5 Skills Workbook: pages 35, 36, 45, 46

(3.8) Science concepts. The student knows that living organisms need food, water, light, air, a way to dispose of waste, and an environment in which to live. The student is expected to:

(C) describe environmental changes in which some organisms would thrive, become ill, or perish.

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Grade 3 Teacher's Guide: pages 188, 189, 190, 191

Grade 3 Skills Workbook: pages 51, 52

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**Grade 5 Skills Workbook:** pages 13, 14, 15, 16, 31, 32, 69, 70, 77, 78

#### Objective 2: The student will demonstrate an understanding of the life sciences.

(3.8) Science concepts. The student knows that living organisms need food, water, light, air, a way to dispose of waste, and an environment in which to live. The student is expected to:

(D) describe how living organisms modify their physical environment to meet their needs such as beavers building a damn or humans building a home.

Grade 3 Student Book: pages 34, 35

**Grade 4 Student Book:** pages 62, 63, 64, 65, 66, 67

Grade 4 Teacher's Guide: pages 26, 27

Grade 4 Skills Workbook: pages 25, 26

**Grade 5 Student Book:** pages 70, 71, 72, 73, 74, 75154, 155, 156, 157

**Grade 5 Teacher's Guide:** pages 30, 31, 62, 63

**Grade 5 Skills Workbook:** pages 29, 30, 61, 62

#### Objective 2: The student will demonstrate an understanding of the life sciences.

(4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:

(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky.

**Grade 4 Student Book:** pages 68, 69, 70, 71, 184, 185, 186, 187, 188, 189

**Grade 4 Teacher's Guide:** pages 28, 29, 74, 75

Grade 4 Skills Workbook: pages 73, 74

**Grade 5 Student Book:** pages 18, 19, 20, 21

Grade 5 Teacher's Guide: pages 8, 9

**Grade 5 Skills Workbook:** pages 7, 8

(5.5) Science concepts. The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to:

#### (A) describe some cycles, structures, and processes that are found in a simple system.

Grade 3 Student Book: pages 122, 123, 124, 125, 126, 127, 182, 183, 184, 185, 186, 187

Grade 3 Teacher's Guide: pages 50, 51, 74, 75

Grade 3 Skills Workbook: pages 49, 50

**Grade 4 Student Book:** pages 42, 43, 44, 45, 46, 47, 68, 69, 70, 71, 184, 185, 186, 187

**Grade 4 Teacher's Guide:** pages 18, 19, 28, 29, 74, 75

Grade 4 Skills Workbook: pages 27, 28, 73, 74

**Grade 5 Student Book:** pages 18, 19, 20, 21, 54, 55, 56, 57, 110, 111, 112, 113, 114, 115, 174, 175, 176, 177

**Grade 5 Teacher's Guide:** pages 8, 9, 22, 23, 46, 47, 70, 71

**Grade 5 Skills Workbook:** pages 7, 8, 21, 22, 45, 46, 69, 70

#### Objective 2: The student will demonstrate an understanding of the life sciences.

## (5.5) Science concepts. The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to:

#### (B) describe some interactions that occur in a simple system.

Grade 3 Student Book: pages 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 182, 183, 184, 185, 186, 187

**Grade 3 Teacher's Guide:** pages 50, 51, 52, 53, 74, 75

**Grade 3 Skills Workbook:** pages 29, 30, 49, 50, 51, 52

**Grade 4 Student Book:** pages 42, 43, 44, 45, 46, 47, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 104, 105, 106, 107

**Grade 4 Teacher's Guide:** pages 18, 19, 26, 27, 28, 29, 44, 45

Grade 4 Skills Workbook: pages 27, 28

Grade 5 Student Book: pages 18, 19, 20, 21, 38, 39, 40, 41, 110, 111, 112, 113, 114, 115, 174, 175, 176, 177

**Grade 5 Teacher's Guide:** pages 8, 9, 16, 17, 22, 23, 46, 47, 70, 71

**Grade 5 Skills Workbook:** pages 7, 8, 15, 16, 21, 22, 45, 46, 69, 70

#### Objective 2: The student will demonstrate an understanding of the life sciences.

(5.6) Science concepts. The student knows that some change occurs in cycles. The student is expected to:

(C) describe and compare life cycles of plants and animals.

Grade 3 Skills Workbook: pages 51, 52

**Grade 4 Student Book:** pages 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 184, 185, 186, 187

**Grade 4 Teacher's Guide:** pages 12, 13, 14, 15, 74, 75

**Grade 4 Skills Workbook:** pages 11, 12, 13, 14, 73, 74

(4.8, 5.9) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:

(A) compare the adaptive characteristics of species that improve their ability to survive and reproduce in an ecosystem.

**Grade 3 Student Book:** pages 38, 39, 40, 41, 60, 61, 62, 63, 68, 69, 70, 71, 72, 73

Grade 3 Teacher's Guide: pages 16, 17, 24, 25, 28, 29

**Grade 3 Skills Workbook:** pages 15, 16, 23, 24, 27, 28

**Grade 4 Student Book:** pages 62, 63, 64, 65, 66, 67, 86, 87, 88, 89, 100, 101, 102, 103

**Grade 4 Teacher's Guide:** pages 26, 27, 36, 37, 42, 43

Grade 4 Skills Workbook: pages 41, 42

**Grade 5 Student Book:** pages 38, 39, 40, 41, 86, 87, 88, 89, 96, 97, 98, 99, 100, 101, 110, 111, 112, 113, 114, 115, 116, 117,

118, 119, 194, 195, 196, 197

**Grade 5 Teacher's Guide:** pages 16, 17, 36, 37, 46, 47, 48, 49, 78, 79

**Grade 5 Skills Workbook:** pages 15, 16, 35, 36, 45, 46, 47, 48, 77, 78

#### Objective 2: The student will demonstrate an understanding of the life sciences.

(4.8, 5.9) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:

(B) analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem.

**Grade 3 Student Book:** pages 38, 39, 40, 41, 60, 61, 62, 63, 68, 69, 70, 71, 72, 73, 128, 129, 130, 131, 174, 175, 176, 177

**Grade 3 Teacher's Guide:** pages 16, 17, 24, 25, 28, 29, 52, 53, 70, 71

**Grade 3 Skills Workbook:** pages 15, 16, 23, 24, 27, 28, 51, 52, 69, 70

Grade 4 Student Book: pages 62, 63, 64, 65, 66, 67, 100, 101, 102, 103

**Grade 4 Teacher's Guide:** pages 26, 27, 42, 43

Grade 4 Skills Workbook: pages 41, 42

**Grade 5 Student Book:** pages 86, 87, 88, 89, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 194, 195, 196, 197

**Grade 5 Teacher's Guide:** pages 36, 37, 46, 47, 48, 49, 78, 79

**Grade 5 Skills Workbook:** pages 35, 36, 45, 46, 47, 48, 77, 78

(4.8, 5.9) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:

(C) predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem.

**Grade 3 Student Book:** pages 174, 175, 176, 177

Grade 3 Teacher's Guide: pages 70, 71

Grade 3 Skills Workbook: pages 69, 70

Grade 4 Student Book: pages 62, 63, 64, 65, 66, 67, 100, 101, 102, 103

**Grade 4 Teacher's Guide:** pages 26, 27, 42, 43

Grade 4 Skills Workbook: pages 41, 42

Grade 5 Student Book: pages 38, 39, 40, 41, 76, 77, 78, 79, 110, 111, 112, 113, 114, 115, 194, 195, 196, 197

**Grade 5 Teacher's Guide:** pages 16, 17, 32, 33, 46, 47, 78, 79

**Grade 5 Skills Workbook:** pages 15, 16, 31, 32, 45, 46, 77, 78

#### Objective 2: The student will demonstrate an understanding of the life sciences.

(3.10, 4.9, 5.10) Science concepts. The student knows that likenesses between offspring and parents can be inherited or learned. The student is expected to:

(A) identify traits that are inherited from parent to offspring in plants and animals.

**Grade 3 Student Book:** pages 174, 175, 176, 177

Grade 3 Teacher's Guide: pages 70, 71

**Grade 5 Student Book:** pages 70, 71, 72, 73, 74, 75

**Grade 5 Teacher's Guide:** pages 30, 31

Grade 5 Skills Workbook: pages 29, 30

#### Objective 2: The student will demonstrate an understanding of the life sciences.

(3.10, 4.9, 5.10) Science concepts. The student knows that likenesses between offspring and parents can be inherited or learned. The student is expected to:

(B) give examples of learned characteristics that result from the influence of the environment.

Grade 3 Student Book: pages 38, 39, 40, 41, 82, 83, 84, 85, 86, 87

Grade 3 Teacher's Guide: pages 16, 17, 34, 35

Grade 3 Skills Workbook: pages 33, 34

**Grade 4 Student Book:** pages 38, 39, 40, 41

Grade 4 Teacher's Guide: pages 16, 17

Grade 4 Skills Workbook: pages 15, 16

Grade 5 Student Book: pages 142, 143, 144, 145, 146, 147

Grade 5 Teacher's Guide: pages 58, 59

Grade 5 Skills Workbook: pages 57, 58

(3.6) Science concepts. The student knows that forces cause change. The student is expected to:

(A) measure and record changes in the position and direction of the motion of an object to which a force such as a push or pull has been applied.

**Grade 3 Student Book:** pages 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 174, 175, 176, 177

**Grade 3 Teacher's Guide:** pages 10, 11, 12, 13, 70, 71

Grade 3 Skills Workbook: pages 9, 10, 11, 12

**Grade 4 Student Book:** pages 22, 23, 24, 25, 26, 27

Grade 4 Teacher's Guide: pages 10, 11

Grade 4 Skills Workbook: pages 9, 10

**Grade 5 Student Book:** pages 22, 23, 24, 25, 26, 27, 28, 29, 30, 31

Grade 5 Teacher's Guide: pages 10, 11, 12, 13

Grade 5 Skills Workbook: pages 9, 10, 11, 12

Objective 3: The student will demonstrate an understanding of the physical sciences.

(4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:

(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky.

**Grade 5 Student Book:** pages 42, 43, 44, 45, 46, 47

**Grade 5 Teacher's Guide:** pages 18, 19

Grade 5 Skills Workbook: pages 17, 18

Objective 3: The student will demonstrate an understanding of the physical sciences.

(5.5) Science concepts. The student knows that a system is a collection of cycles, structures, and process that interact. The student is expected to:

(A) describe some cycles, structures, and processes that are found in a simple system.

**Grade 3 Student Book:** pages 118, 119, 120, 121

Grade 3 Teacher's Guide: pages 48, 49

Grade 3 Skills Workbook: pages 47, 48

**Grade 4 Student Book:** pages 50, 51, 52, 53, 72, 73, 74, 75, 76, 77, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152,

153, 194, 195, 196, 197

Grade 4 Teacher's Guide: pages 20, 21, 30, 31, 58, 59, 60, 61, 78, 79

**Grade 4 Skills Workbook:** pages 29, 30, 45, 46, 69, 70, 77, 78

**Grade 5 Student Book:** pages 32, 33, 34, 35, 36, 37, 42, 43, 44, 45, 46, 47

**Grade 5 Teacher's Guide:** pages 14, 15, 18, 19

Grade 5 Skills Workbook: pages 13, 14, 17, 18

(5.5) Science concepts. The student knows that a system is a collection of cycles, structures, and process that interact. The student is expected to:

#### (B) describe some interactions that occur in a simple system.

Grade 3 Student Book: pages 96, 97, 98, 99, 118, 119, 120, 121

Grade 3 Teacher's Guide: pages 40, 41, 48, 49

Grade 3 Skills Workbook: pages 47, 48

**Grade 4 Student Book:** pages 18, 19, 20, 21, 50, 51, 52, 53, 58, 59, 60, 61, 148, 149, 150, 151, 152, 153, 194, 195, 196, 197

**Grade 4 Teacher's Guide:** pages 8, 9, 20, 21, 24, 25, 60, 61, 78, 79

**Grade 4 Skills Workbook:** pages 7, 8, 19, 20, 23, 24, 29, 30, 45, 46, 69, 70, 77, 78

**Grade 5 Student Book:** pages 32, 33, 34, 35, 36, 37, 42, 43, 44, 45, 46, 47

Grade 5 Teacher's Guide: pages 14, 15, 18, 19

Grade 5 Skills Workbook: pages 13, 14, 17, 18

#### Objective 3: The student will demonstrate an understanding of the physical sciences.

#### (3.7, 4.7, 5.7) The student knows that matter has physical properties. The student is expected to:

(A) classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound.

**Grade 3 Student Book:** pages 112, 113, 114, 115, 116, 117

Grade 3 Teacher's Guide: pages 46, 47

**Grade 4 Student Book:** pages 8, 9, 10, 11, 12, 13, 18, 19, 20, 21

Grade 4 Teacher's Guide: pages 4, 5, 8, 9

**Grade 4 Skills Workbook:** pages 7, 8, 45, 46, 77, 78

**Grade 5 Student Book:** pages 42, 43, 44, 45, 46, 47, 66, 67, 68, 69, 106, 107, 108, 109

**Grade 5 Teacher's Guide:** pages 18, 19, 28, 29, 44, 45

**Grade 5 Skills Workbook:** pages 17, 18, 27, 28, 43, 44

#### Objective 3: The student will demonstrate an understanding of the physical sciences.

(3.7, 4.7, 5.7) The student knows that matter has physical properties. The student is expected to:

(B) demonstrate that some mixtures maintain the physical properties of their ingredients.

**Grade 3 Student Book:** pages 136, 137, 138, 139

Grade 3 Teacher's Guide: pages 56, 57

(3.7, 4.7, 5.7) The student knows that matter has physical properties. The student is expected to:

(C) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving sugar in water.

**Grade 3 Student Book:** pages 136, 137, 138, 139

Grade 3 Teacher's Guide: pages 56, 57

**Grade 4 Student Book:** pages 132, 133, 134, 135

**Grade 4 Teacher's Guide:** pages 54, 55

**Grade 5 Student Book:** pages 14, 15, 16, 17, 32, 33, 34, 35, 36, 37, 42, 43 44, 45, 46, 47

**Grade 5 Teacher's Guide:** pages 6, 7, 14, 15, 18, 19

**Grade 5 Skills Workbook:** pages 5, 6, 13, 14, 17, 18

#### Objective 3: The student will demonstrate an understanding of the physical sciences.

(3.7, 4.7, 5.7) The student knows that matter has physical properties. The student is expected to:

(D) observe and measure characteristic properties of substances that remain constant such as boiling points and melting points.

**Grade 3 Student Book:** pages 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 23, 24, 25, 26, 27

**Grade 3 Teacher's Guide:** pages 4, 5, 6, 7, 10, 11

**Grade 3 Skills Workbook:** pages 3, 4, 5, 6, 9, 10

**Grade 4 Student Book:** pages 8, 9, 10, 11, 12, 13, 174, 175, 176, 177, 178, 179

Grade 4 Teacher's Guide: pages 4, 5, 70, 71

Grade 4 Skills Workbook: pages 3, 4, 69, 70

**Grade 5 Student Book:** pages 10, 11, 12, 13, 22, 23, 24, 25, 42, 43, 44, 45, 46, 47

**Grade 5 Teacher's Guide:** pages 4, 5, 10, 11, 18, 19

**Grade 5 Skills Workbook:** pages 3, 4, 9, 10, 17, 18

(5.8) The student knows that energy occurs in many forms. The student is expected to:

(A) differentiate among forms of energy including light, heat, electricity, and solar energy.

**Grade 3 Student Book:** pages 64, 65, 66, 67, 146, 147, 148, 149, 150, 151, 160, 161, 162, 163, 164, 165, 182, 183, 184, 185, 186, 187

**Grade 3 Teacher's Guide:** pages 26, 27, 60, 61, 64, 65, 74, 75

Grade 3 Skills Workbook: pages 25, 26

**Grade 4 Student Book:** pages 18, 19, 20, 21, 72, 73, 74, 75, 76, 77, 194, 195, 196, 197

**Grade 4 Teacher's Guide:** pages 8, 9, 30, 31, 78, 79

**Grade 4 Skills Workbook:** pages 7, 8, 29, 30, 45, 46, 77, 78

**Grade 5 Student Book:** pages 66, 67, 68, 69

Grade 5 Teacher's Guide: pages 28, 29

Grade 5 Skills Workbook: pages 27, 28, 75, 76

#### Objective 3: The student will demonstrate an understanding of the physical sciences.

(5.8) The student knows that energy occurs in many forms. The student is expected to:

(B) identify and demonstrate everyday examples of how light is reflected, such as from tinted windows, and refracted, such as in cameras, telescopes, and eyeglasses.

**Grade 3 Student Book:** pages 64, 65, 66, 67, 146, 147, 148, 149, 150, 151, 160, 161, 162, 163, 164, 165, 182, 183, 184, 185, 186, 187

**Grade 3 Teacher's Guide:** pages 26, 27, 60, 61, 64, 65, 74, 75

Grade 3 Skills Workbook: pages 25, 26, 73, 74

Grade 4 Student Book: pages 148, 149, 150, 151, 152, 153, 194, 195, 196, 197

Grade 4 Teacher's Guide: pages 60, 61, 78, 79

**Grade 5 Student Book:** pages 28, 29

**Grade 5 Teacher's Guide:** pages 66, 67, 68, 69

Grade 5 Skills Workbook: pages 27, 28, 75, 76

#### Objective 3: The student will demonstrate an understanding of the physical sciences.

(5.8) The student knows that energy occurs in many forms. The student is expected to:

(C) demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects.

Grade 4 Skills Workbook: pages 77, 78

#### Objective 3: The student will demonstrate an understanding of the physical sciences.

(5.8) The student knows that energy occurs in many forms. The student is expected to:

(D) verify that vibrating an object can produce sound.

**Grade 5 Skills Workbook:** page 76

(3.6) Science concepts. The student knows that forces can cause change. The student is expected to:

(B) identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.

Grade 3 Student Book: pages 32, 33, 34, 35, 36, 37, 88, 89, 90, 91, 178, 179, 180, 181, 196, 197, 198, 199, 200, 201

**Grade 3 Teacher's Guide:** pages 14, 15, 36, 37, 72, 73, 80, 81

Grade 3 Skills Workbook: pages 35, 36, 39, 80

Grade 4 Student Book: pages 4, 5, 6, 7, 120, 121, 122, 123, 124, 125, 136, 137, 138, 139, 140, 141

**Grade 4 Teacher's Guide:** pages 2, 3, 50, 51, 56, 57

**Grade 4 Skills Workbook:** pages 1, 2, 33, 34, 55, 56

Grade 5 Student Book: pages 166, 167, 168, 169

Grade 5 Teacher's Guide: pages 66, 67

Grade 5 Skills Workbook: pages 65, 66

#### Objective 4: The student will demonstrate an understanding of the earth sciences.

(4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:

(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky.

**Grade 3 Student Book:** pages 18, 19, 20, 21, 42, 43, 44, 45, 46, 47

Grade 3 Teacher's Guide: pages 8, 9, 18, 19

**Grade 3 Skills Workbook:** pages 7, 8, 43, 44, 71, 72

Grade 4 Student Book: pages 190, 191, 192, 193

**Grade 4 Teacher's Guide:** pages 76, 77

Grade 4 Skills Workbook: pages 75, 76

Grade 5 Student Book: pages 102, 103, 104, 105

Grade 5 Teacher's Guide: pages 42, 43

Grade 5 Skills Workbook: pages 41, 42

(5.5) Science concepts. The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to:

#### (A) describe some cycles, structures, and processes that are found in a simple system.

**Grade 3 Student Book:** pages 4, 5, 6, 7, 18, 19, 20, 21, 42, 43, 44, 45, 46, 47, 50, 51, 52, 53, 54, 55, 106, 107, 108, 109, 110, 111

Grade 3 Teacher's Guide: pages 2, 3, 8, 9, 18, 19, 20, 21, 44, 45

**Grade 3 Skills Workbook:** pages 1, 2, 7, 8, 19, 20, 43, 44, 71, 72

Grade 4 Student Book: pages 82, 83, 84, 85, 120, 121, 122, 123, 124, 125, 190, 191, 192, 193

**Grade 4 Teacher's Guide:** pages 34, 35, 50, 51, 76, 77

Grade 4 Skills Workbook: pages 33, 34

**Grade 5 Student Book:** pages 4, 5, 6, 7, 8, 9, 80, 81, 82, 83, 84, 85, 120, 121, 122, 123

**Grade 5 Teacher's Guide:** pages 2, 3, 34, 35, 50, 51

**Grade 5 Skills Workbook:** pages 1, 2, 33, 34, 49, 50

#### Objective 4: The student will demonstrate an understanding of the earth sciences.

(5.5) Science concepts. The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to:

#### (B) describe some interactions that occur in a simple system.

**Grade 3 Student Book:** pages 18, 19, 20, 21, 42, 43, 44, 45, 46, 47, 50, 51, 52, 53, 54, 55, 106, 107, 108, 109, 110, 111

**Grade 3 Teacher's Guide:** pages 8, 9, 18, 19, 44, 45

**Grade 3 Skills Workbook:** pages 7, 8, 19, 20, 71, 72

**Grade 4 Student Book:** pages 54, 55, 56, 57, 82, 83, 84, 85, 120, 121, 122, 123, 124, 125, 136, 137, 138, 139, 140, 141, 190, 191, 192, 193

**Grade 4 Teacher's Guide:** pages 22, 23, 34, 35, 50, 51, 56, 57, 76, 77

Grade 4 Skills Workbook: pages 21, 22, 33, 34

**Grade 5 Student Book:** pages 4, 5, 6, 7, 8, 9, 80, 81, 82, 83, 84, 85, 120, 121, 122, 123

**Grade 5 Teacher's Guide:** pages 2, 3, 34, 35, 50, 51

**Grade 5 Skills Workbook:** pages 1, 2, 33, 34, 49, 50

(5.6) Science concepts. The student knows that some change occurs in cycles. The student is expected to:

(A) identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles.

**Grade 3 Student Book:** pages 42, 43, 44, 45, 46, 47

Grade 3 Teacher's Guide: pages 18, 19

Grade 4 Student Book: pages 120, 121, 122, 123, 124, 125

Grade 4 Teacher's Guide: pages 50, 51

**Grade 5 Student Book:** pages 80, 81, 82, 83, 84, 85

**Grade 5 Teacher's Guide:** pages 34, 35

Grade 5 Skills Workbook: pages 33, 34

Objective 4: The student will demonstrate an understanding of the earth sciences.

(5.6) Science concepts. The student knows that some change occurs in cycles. The student is expected to:

(B) identify the significance of the water, carbon, and nitrogen cycle.

**Grade 3 Student Book:** pages 18, 19, 20, 21

Grade 3 Teacher's Guide: pages 8, 9

Grade 3 Skills Workbook: pages 7, 8

Objective 4: The student will demonstrate an understanding of the earth sciences.

(4.10, 5.11) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:

(A) identify and observe actions that require time for changes to be measurable, including growth, erosion, dissolving, weathering, and flow.

**Grade 3 Student Book:** pages 32, 33, 34, 35, 36, 37, 88, 89, 90, 91, 178, 179, 180, 181

**Grade 3 Teacher's Guide:** pages 14, 15, 36, 37, 72, 73

Grade 3 Skills Workbook: pages 71, 72

**Grade 4 Student Book:** pages 82, 83, 84, 85

Grade 4 Teacher's Guide: pages 34, 35

Grade 4 Skills Workbook: pages 33, 34

**Grade 5 Student Book:** pages 32, 33, 34, 35, 36, 37

**Grade 5 Teacher's Guide:** pages 14, 15

Grade 5 Skills Workbook: pages 13, 14

(4.10, 5.11) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:

(B) draw conclusions about "what happened before" using data such as from tree-growth rings and sedimentary rock sequences.

Grade 3 Student Book: pages 78, 79, 80, 81, 132, 133, 134, 135, 188, 189, 190, 191

**Grade 3 Teacher's Guide:** pages 32, 33, 54, 55, 76, 77

**Grade 3 Skills Workbook:** pages 75 76

**Grade 5 Student Book:** pages 102, 103, 104, 105, 160, 161, 162, 163, 164, 165

 $\textbf{Grade 5 Teacher's Guide:} \ pages\ 42,\ 43,\ 64,\ 65$ 

Grade 5 Skills Workbook: pages 41, 42, 63, 64

Objective 4: The student will demonstrate an understanding of the earth sciences.

(4.10, 5.11) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:

(C) identify past events that led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources.

Grade 3 Skills Workbook: pages 75, 76

Grade 4 Student Book: pages 108, 109, 110, 111, 112, 113

Grade 4 Teacher's Guide: pages 46, 47

**Grade 5 Student Book:** pages 42, 43, 44, 45, 46, 47

Grade 5 Teacher's Guide: pages 18, 19

**Grade 5 Skills Workbook:** pages 14, 17, 18

Objective 4: The student will demonstrate an understanding of the earth sciences.

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(A) identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources.

Grade 3 Student Book: pages 106, 107, 108, 109, 110, 111, 170, 171, 172, 173

Grade 3 Teacher's Guide: pages 44, 45, 68, 69

Grade 3 Skills Workbook: pages 67, 68, 75, 76

Grade 4 Student Book: pages 108, 109, 110, 111, 112, 113, 180, 181, 182, 183

**Grade 4 Teacher's Guide:** pages 46, 47, 72, 73

Grade 4 Skills Workbook: pages 61, 62

**Grade 5 Student Book:** pages 42, 43, 44, 45, 46, 47, 120, 121, 122, 123

**Grade 5 Teacher's Guide:** pages 18, 19, 50, 51

**Grade 5 Skills Workbook:** pages 49, 50

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(C) identify the planets in our solar system and their position in relation to the Sun.

**Grade 3 Student Book:** pages 50, 51, 52, 53, 54, 55

Grade 3 Teacher's Guide: pages 20, 21

Grade 3 Skills Workbook: pages 19, 20

**Grade 4 Student Book:** pages 54, 55, 56, 57

Grade 4 Teacher's Guide: pages 22, 23

Grade 4 Skills Workbook: pages 21, 22

#### Objective 4: The student will demonstrate an understanding of the earth sciences.

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(D) describe the characteristics of the Sun.

This concept is not covered at this level.

Objective 4: The student will demonstrate an understanding of the earth sciences.

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(A) test properties of soils including texture, capacity to retain water, and ability to support life.

**Grade 5 Skills Workbook:** page 13

Objective 4: The student will demonstrate an understanding of the earth sciences.

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(B) summarize the effects of the oceans on land.

**Grade 3 Student Book:** pages

**Grade 3 Teacher's Guide:** pages 178, 179, 180, 181

Grade 3 Skills Workbook: pages 72, 73

Grade 4 Student Book: pages 71, 72

**Grade 4 Teacher's Guide:** pages 82, 83, 84, 85

**Grade 4 Skills Workbook:** pages 34, 35

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(C) identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle.

**Grade 3 Student Book:** pages 106, 107, 108, 109, 110, 111

Grade 3 Teacher's Guide: pages 44, 45

**Grade 4 Student Book:** pages 108, 109, 110, 111, 112, 113

Grade 4 Teacher's Guide: pages 46, 47

Grade 4 Skills Workbook: pages 45, 46

Grade 5 Student Book: pages 106,107, 108, 109

Grade 5 Teacher's Guide: pages 44, 45

Grade 5 Skills Workbook: pages 43, 44

Objective 4: The student will demonstrate an understanding of the earth sciences.

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(A) interpret how land forms are the result of a combination of constructive and destructive forces such as deposition of sediment and weathering.

**Grade 3 Student Book:** pages 60, 61, 62, 63, 74, 75, 76, 77, 178, 179, 180, 181, 196, 197, 198, 199, 200, 201

**Grade 3 Teacher's Guide:** pages 24, 25, 30, 31, 36, 37, 72, 73, 80, 81

**Grade 3 Skills Workbook:** pages 35, 36, 71, 72, 79, 80

Grade 4 Student Book: pages 82, 83,84, 85, 136, 137, 138, 139, 140, 141

**Grade 4 Teacher's Guide:** pages 34, 35, 56, 57

Grade 4 Skills Workbook: pages 33, 34, 79, 80

Objective 4: The student will demonstrate an understanding of the earth sciences.

(3.11, 4.11, 5.12) The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(C) identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon.

Grade 3 Teacher's Guide: pages 18, 19